

Figure 25. Map of ground water sample locations in the San Mateo Creek area, New Mexico.

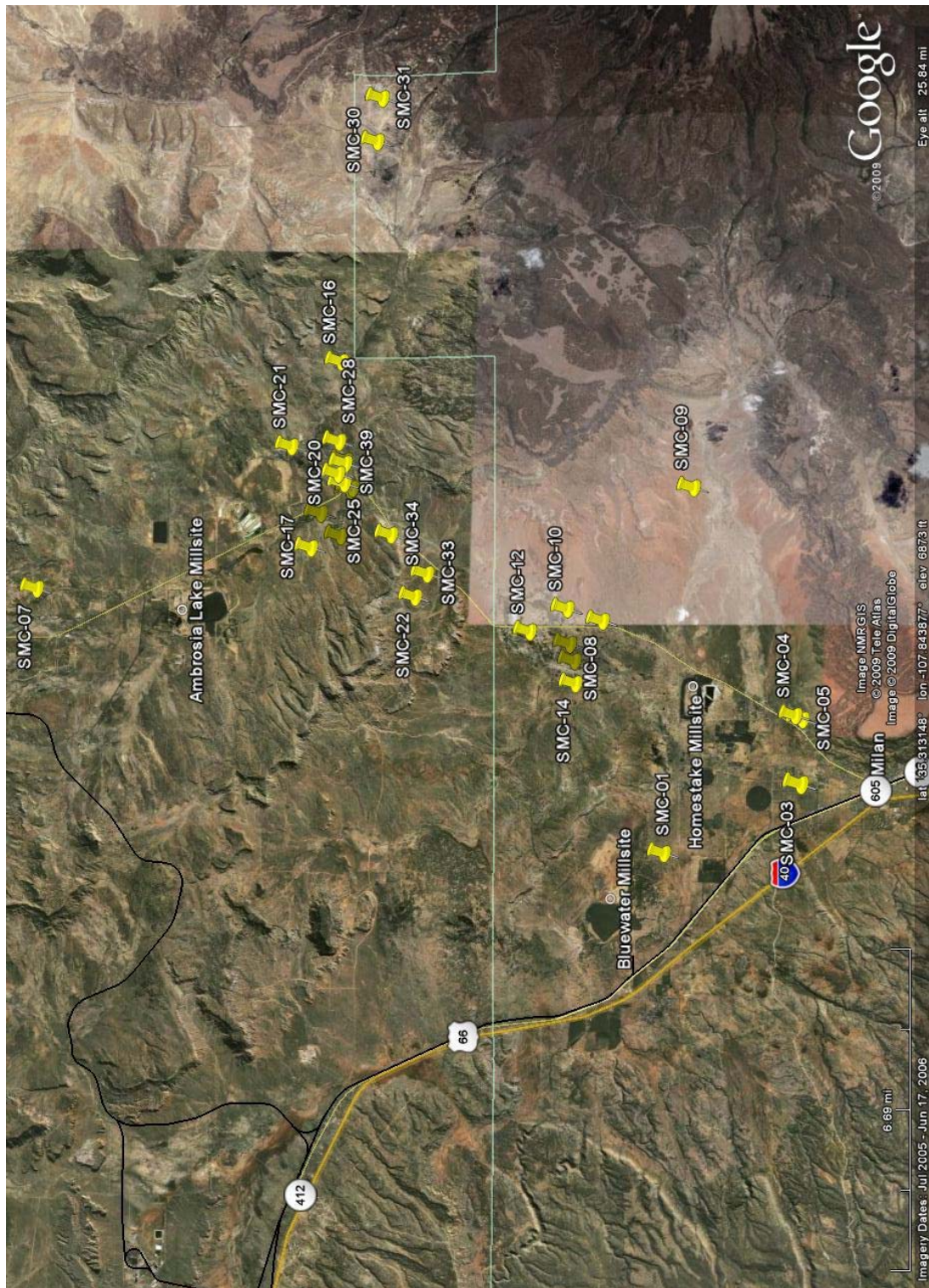


Figure 26. Chart of major ion and TDS concentrations (2009) in mg/l at sample locations in the alluvial aquifer along the assumed ground water flow path from north to south, San Mateo Creek area, New Mexico.

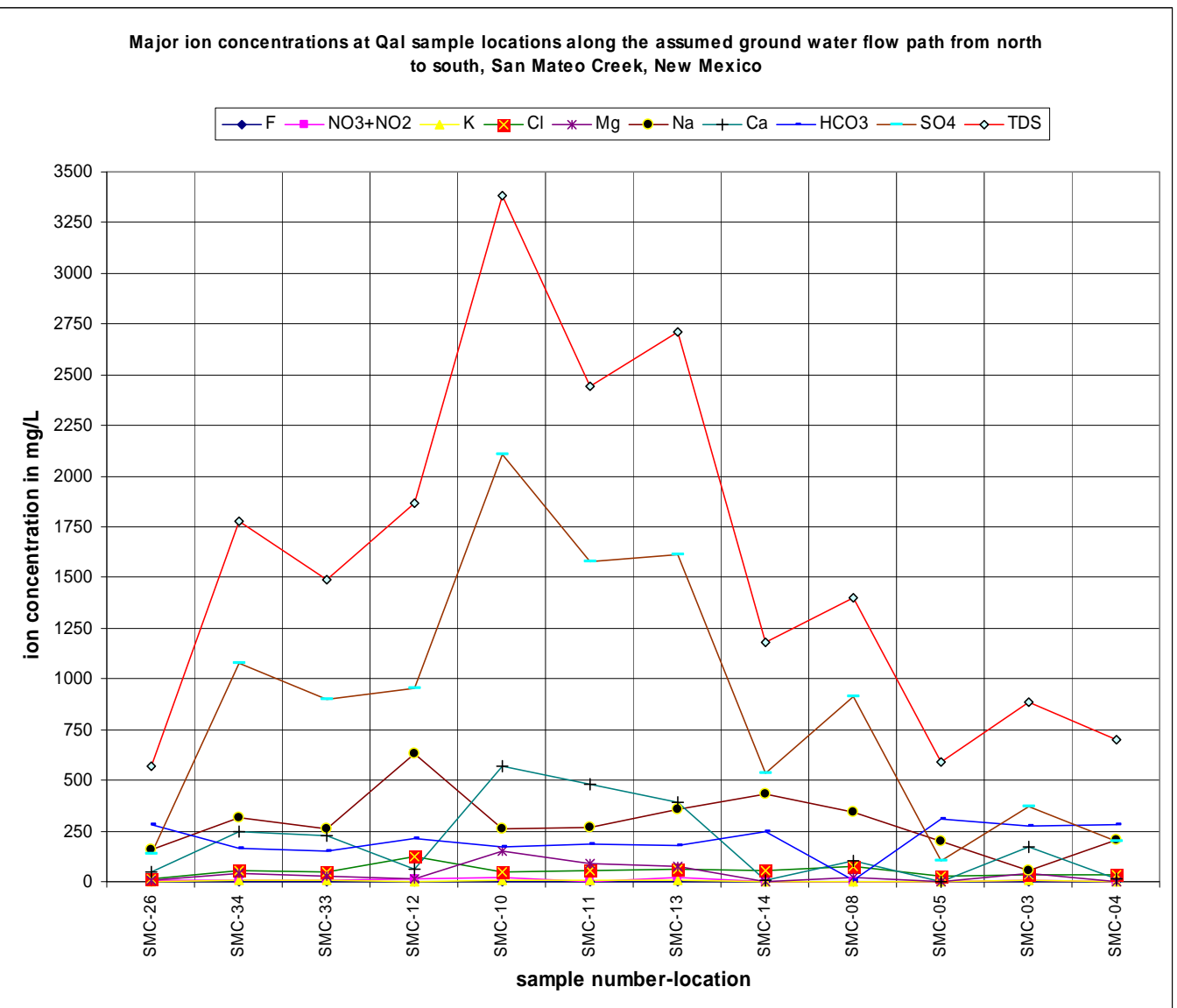


Figure 27. Chart of major ion and TDS concentrations (2009) in mg/l at sample locations in the Jurassic Morrison Formation (Westwater Canyon member) and other bedrock units along the assumed ground water flow path from north to south, San Mateo Creek area, New Mexico.

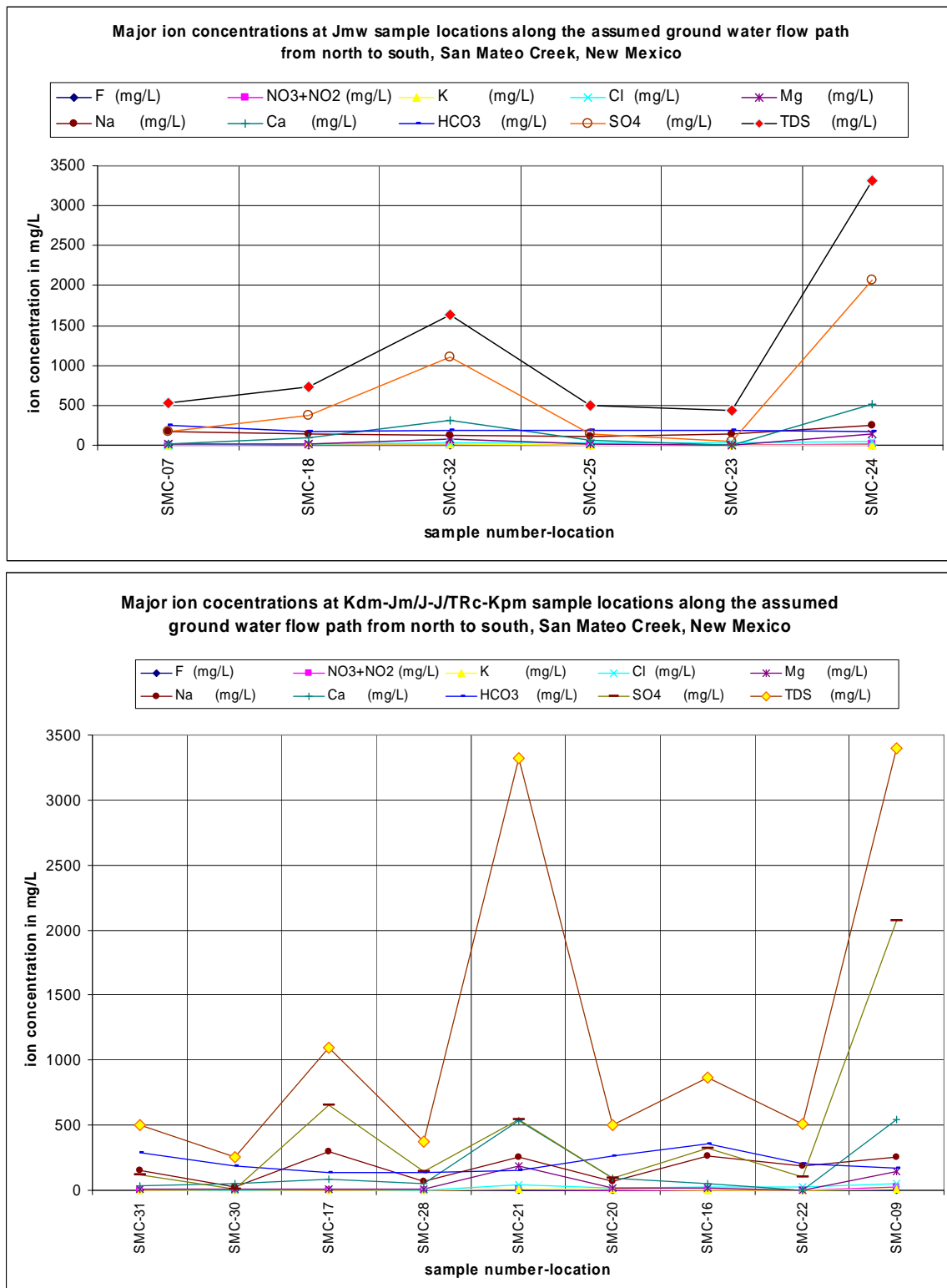


Figure 28. Map of Stiff diagrams for major ion concentrations (2009) in milliequivalents per liter (meq/l) at ground water sample locations, San Mateo Creek area, New Mexico.

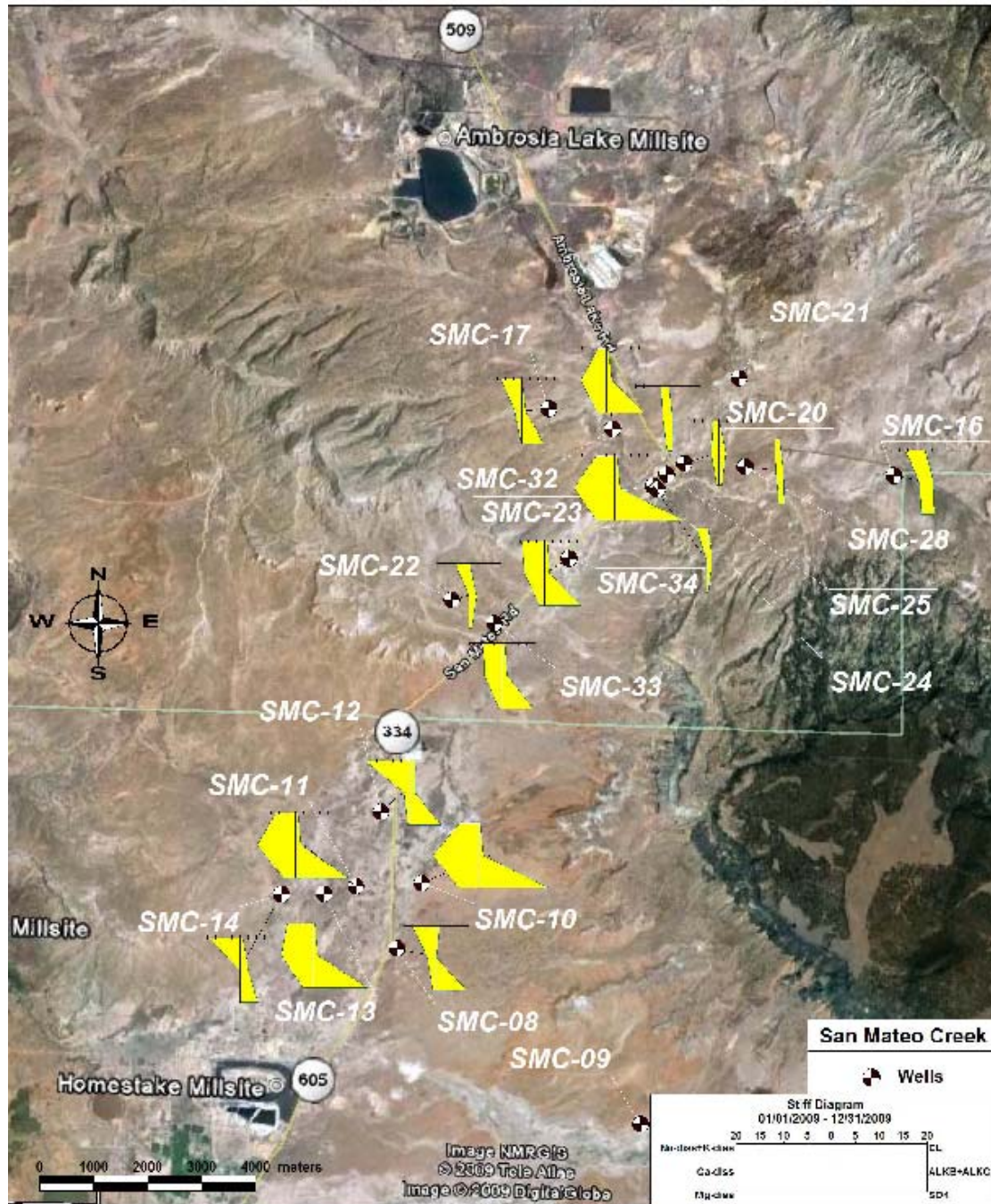


Figure 29. Trilinear (Piper) diagram of the relative percentage of major ion concentrations (2009) in meq/l for ground water samples from the alluvial aquifer, San Mateo Creek area, New Mexico.

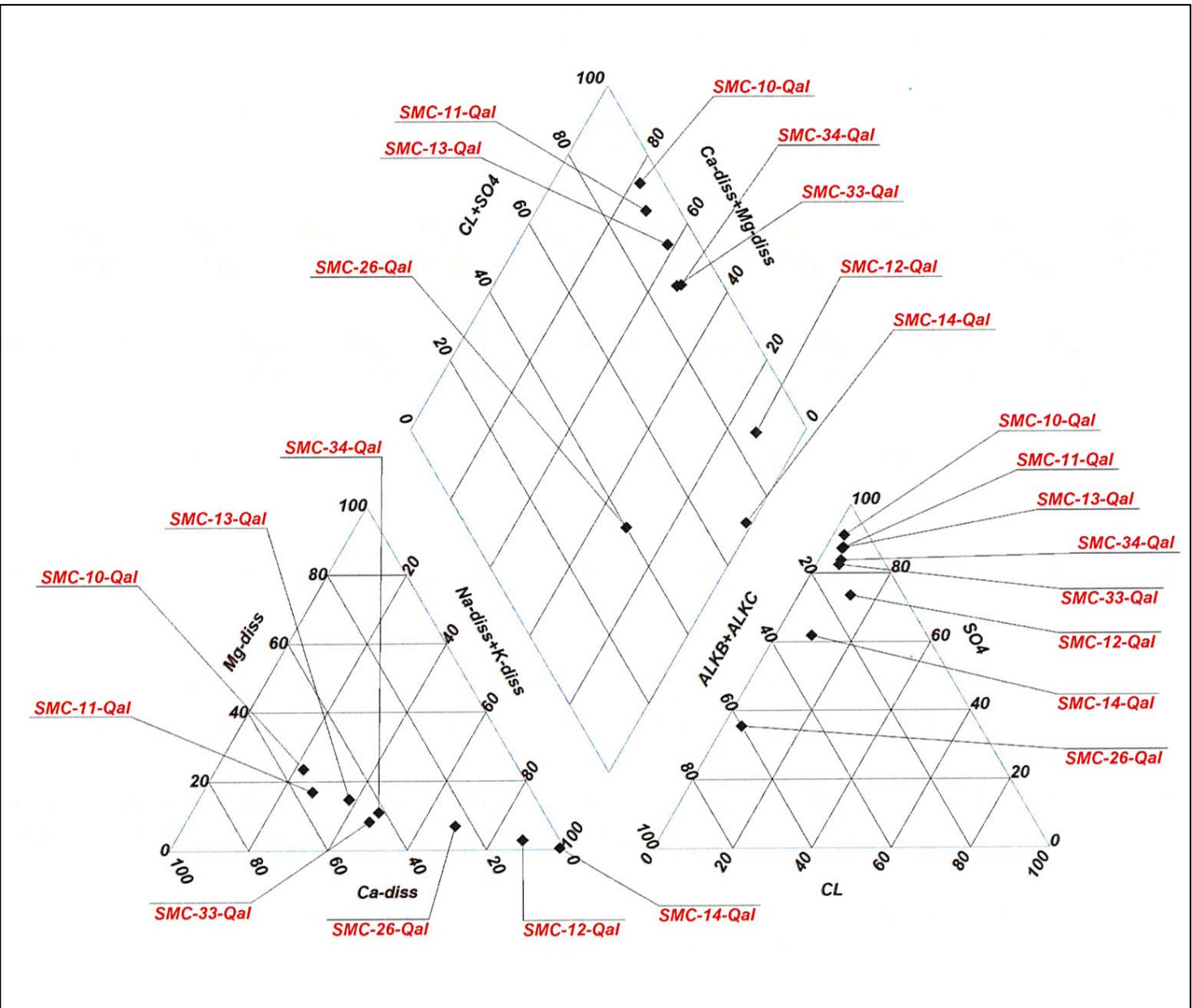


Figure 30. Trilinear (Piper) diagram of the relative percentage of major ion concentrations (2009) in meq/l for ground water samples from the Jurassic Morrison Formation (Westwater Canyon Member), San Mateo Creek area, New Mexico.

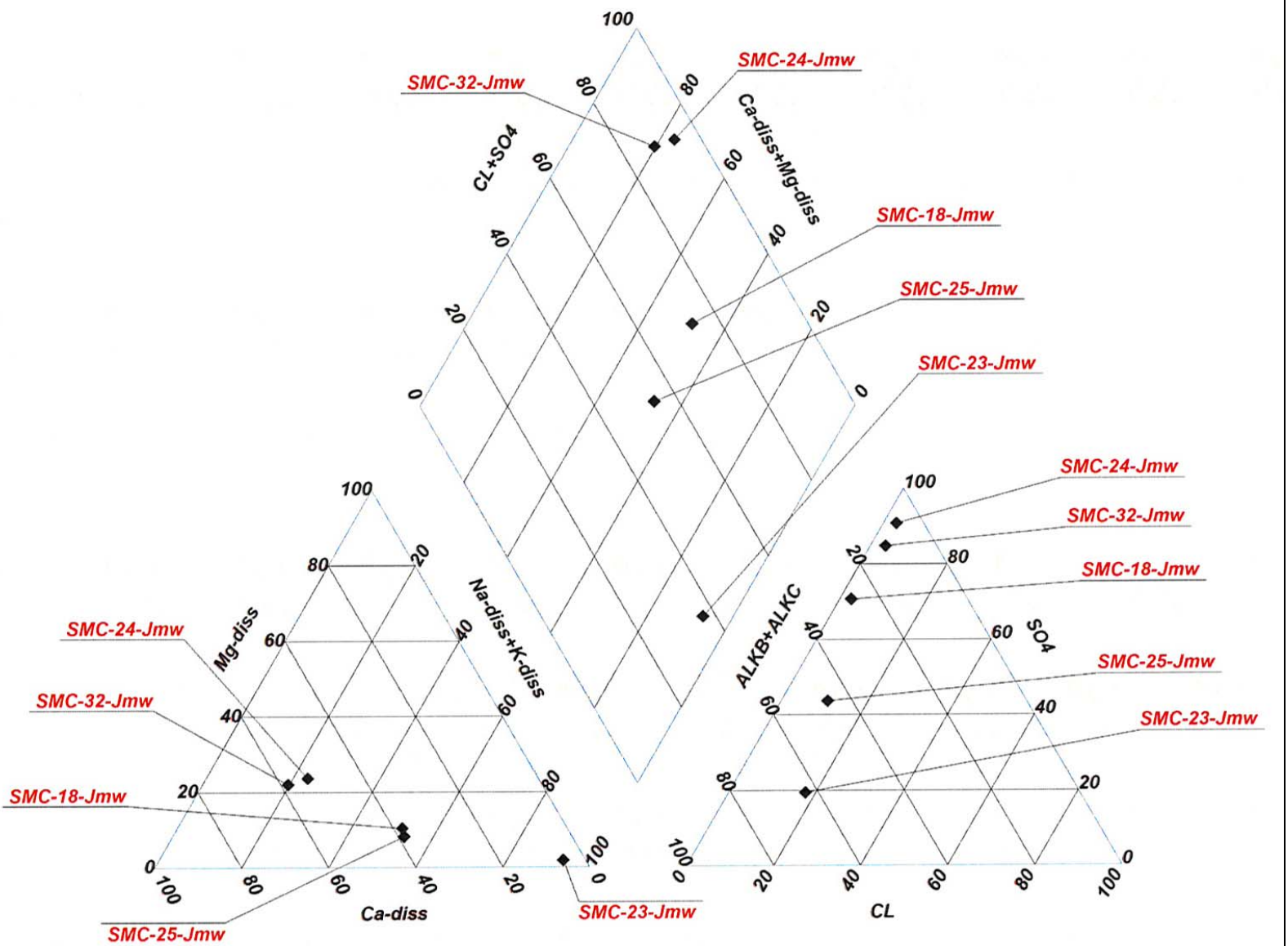


Figure 31. Trilinear diagram from Brod (1979) showing average ion compositions in relative percent meq/l for aquifer units, San Mateo Creek area, New Mexico.

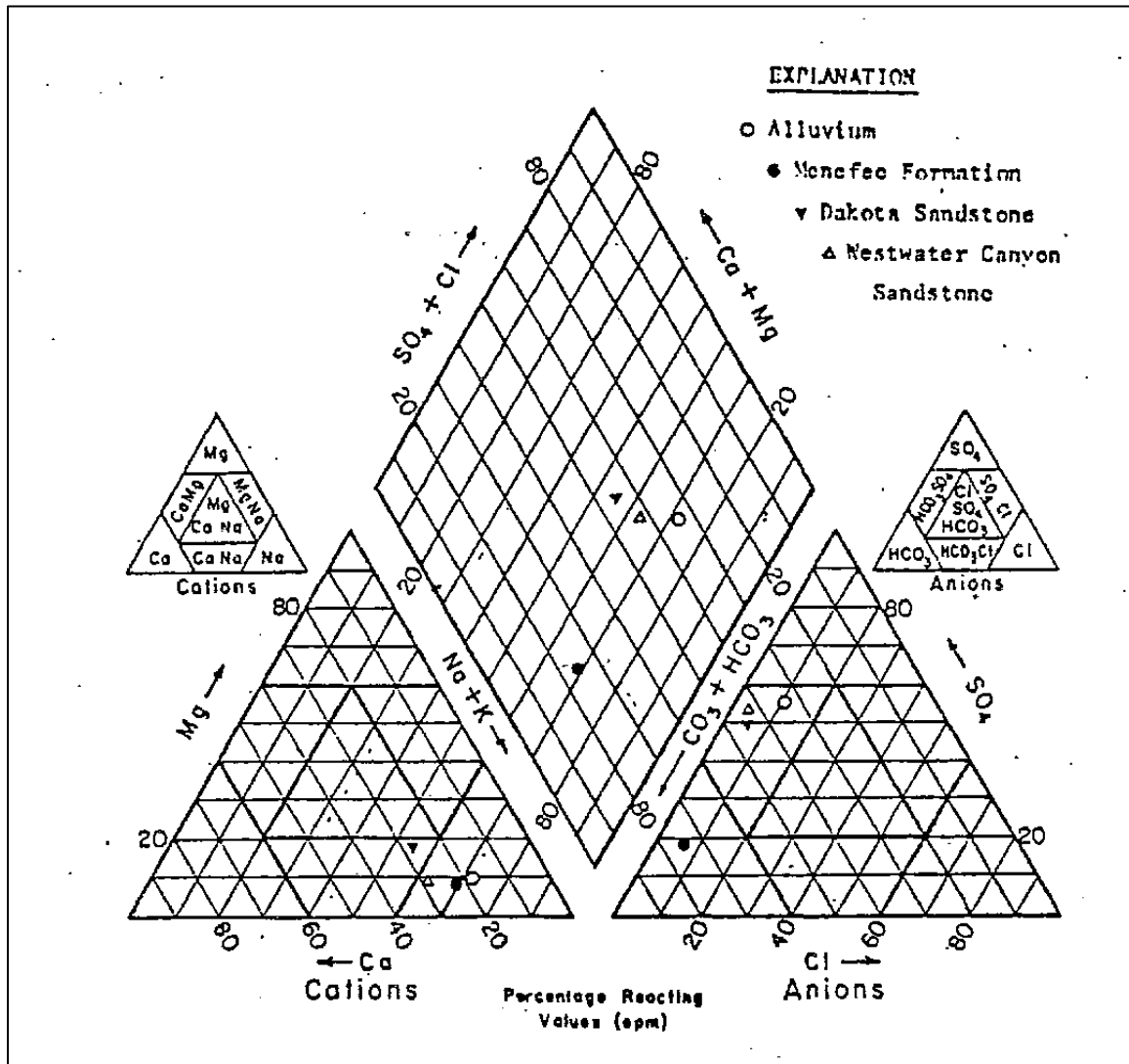


Figure 32. Chart of seven trace element concentrations (2009) in ug/l for sample locations along the assumed ground water flow path from north to south, San Mateo Creek area, New Mexico.

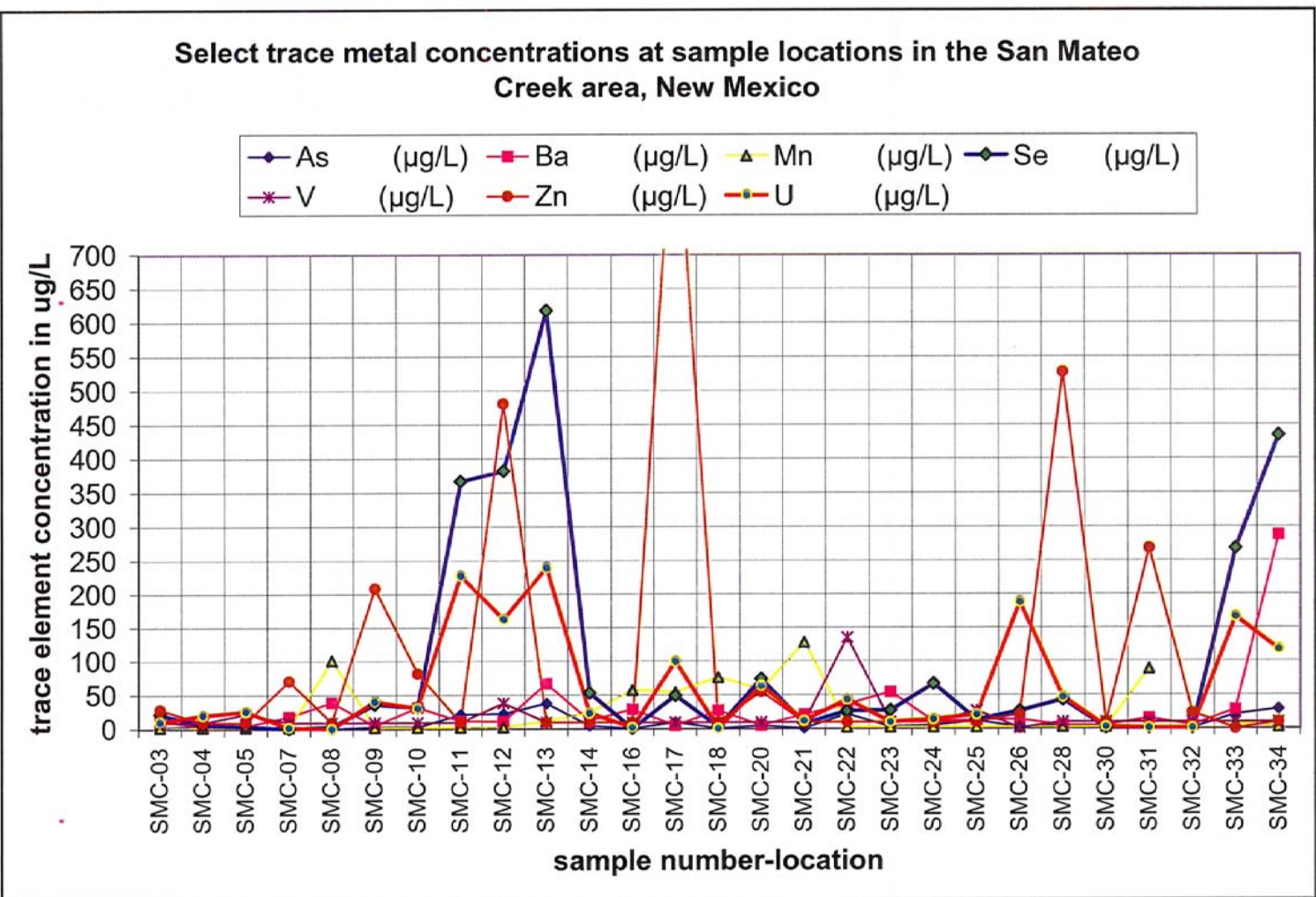


Figure 34. X-Y chart of U vs. Se concentrations (2009) in ug/l for ground water sample locations, San Mateo Creek area, New Mexico.

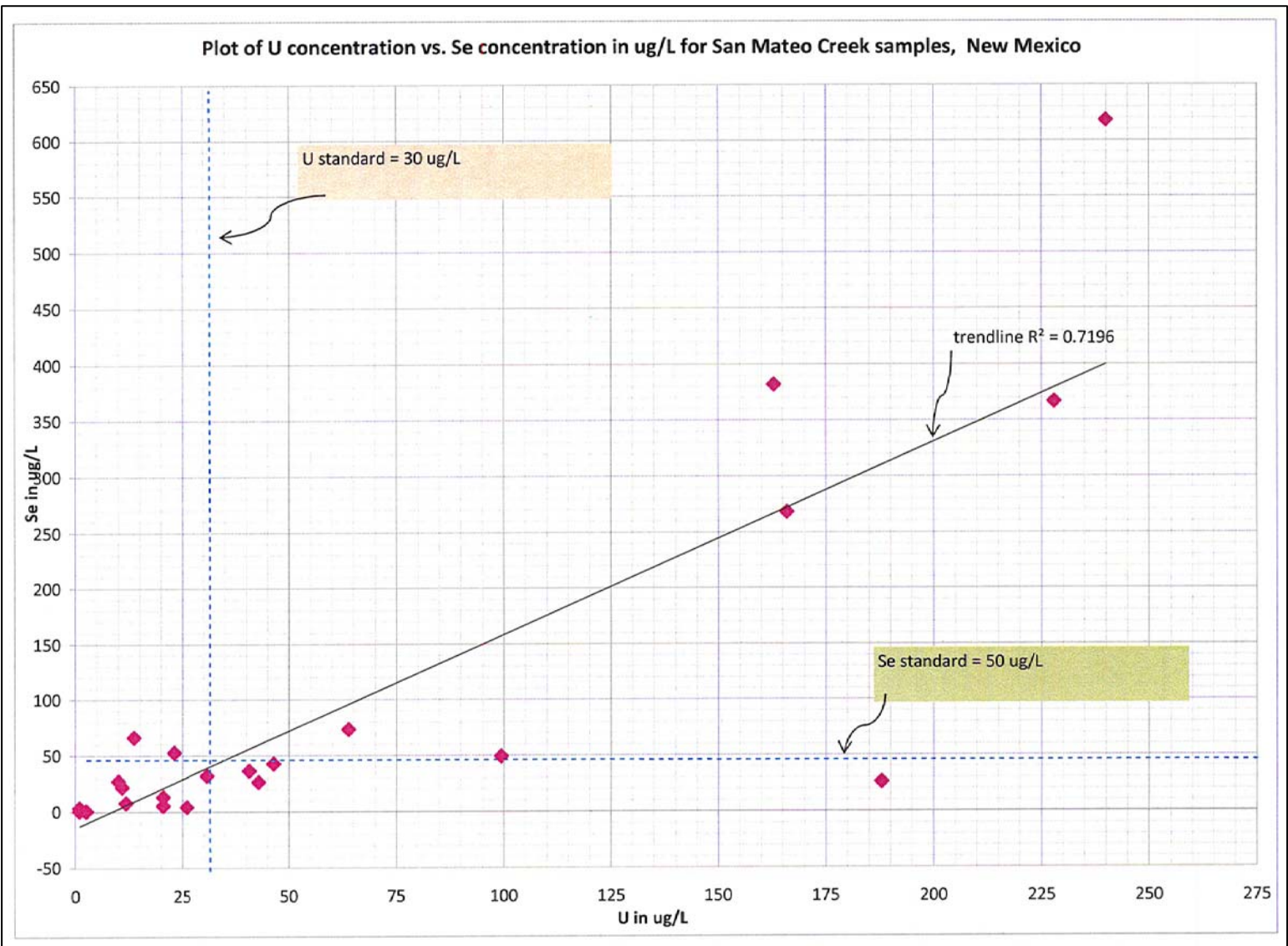


Figure 35. X-Y chart of the ^{234}U : ^{238}U activity ratio vs. uranium concentrations (2009) in ug/l for a select set of ground water sample locations, San Mateo Creek area, New Mexico.

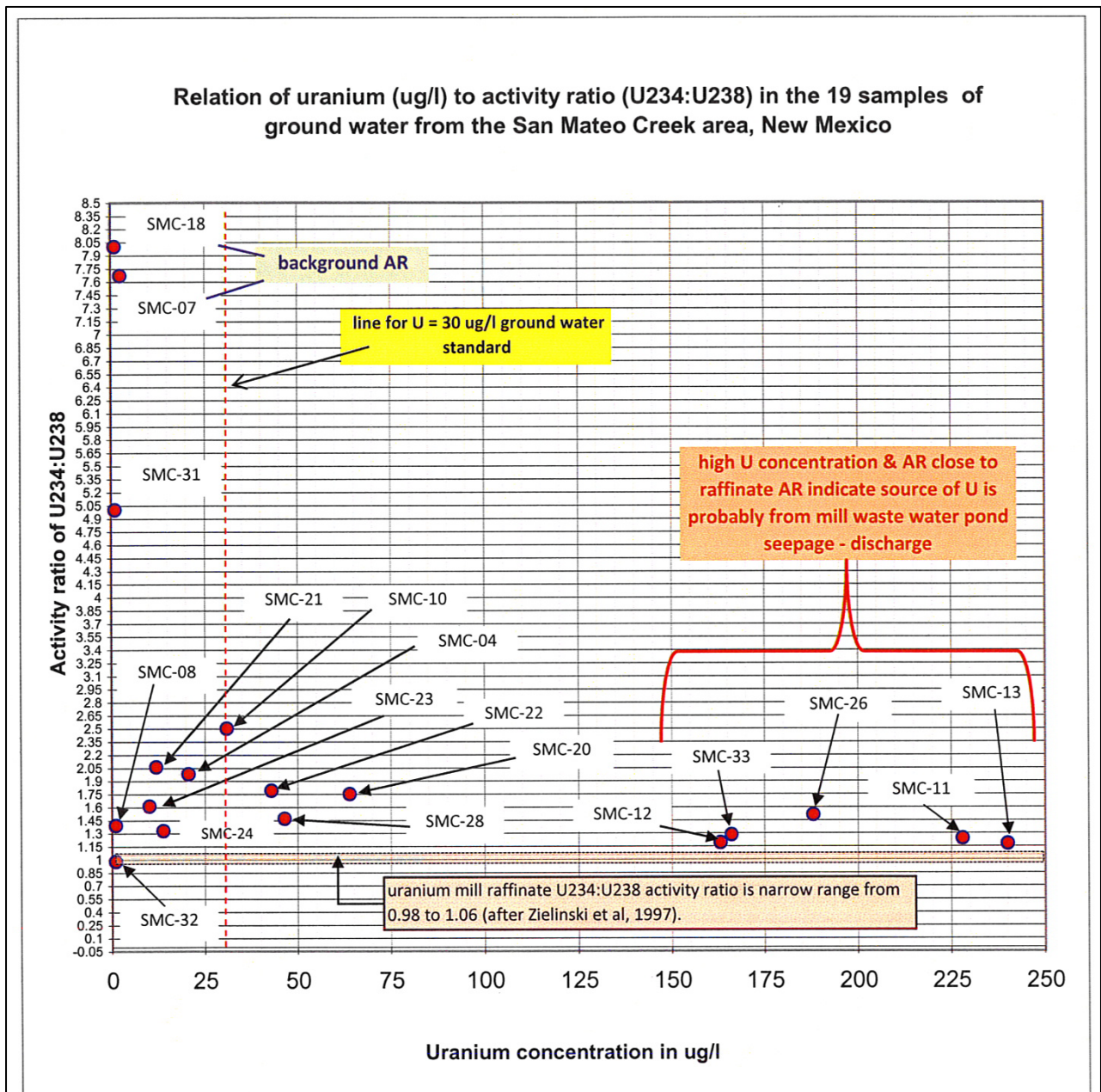


Figure 36. X-Y chart of the ^{234}U : ^{238}U activity ratio vs. the reciprocal of uranium concentrations (2009) in $\mu\text{g/l}$ for a select set of ground water sample locations, San Mateo Creek area, New Mexico (after Zielinski, 1997).

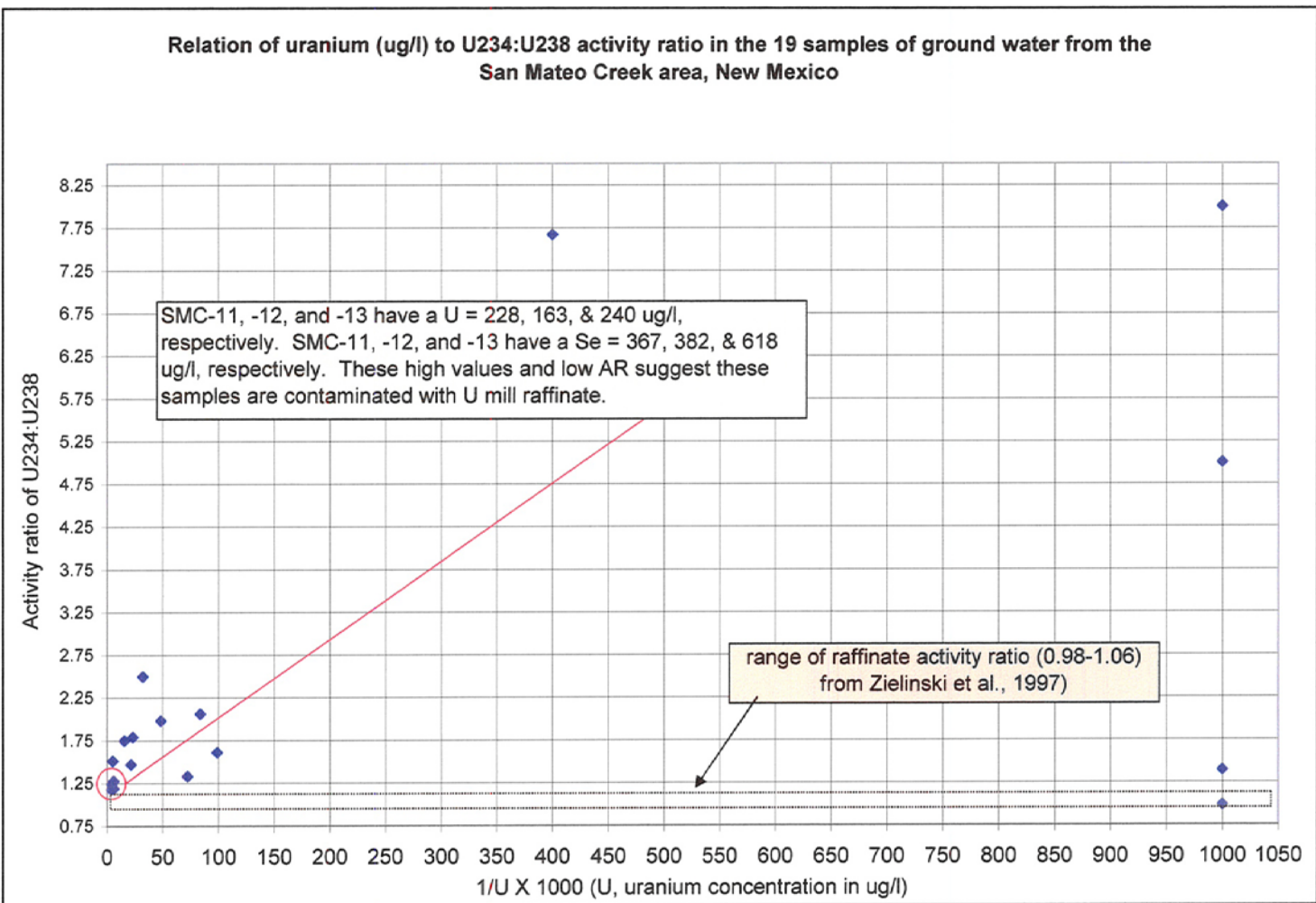


Figure 37. X-Y chart of the stable isotope values of $\delta^{18}\text{O}$ vs. δD (2009) in per mil (o/oo) for a select set of ground water samples, plotted with the Craig meteoric water line, San Mateo Creek area, New Mexico.

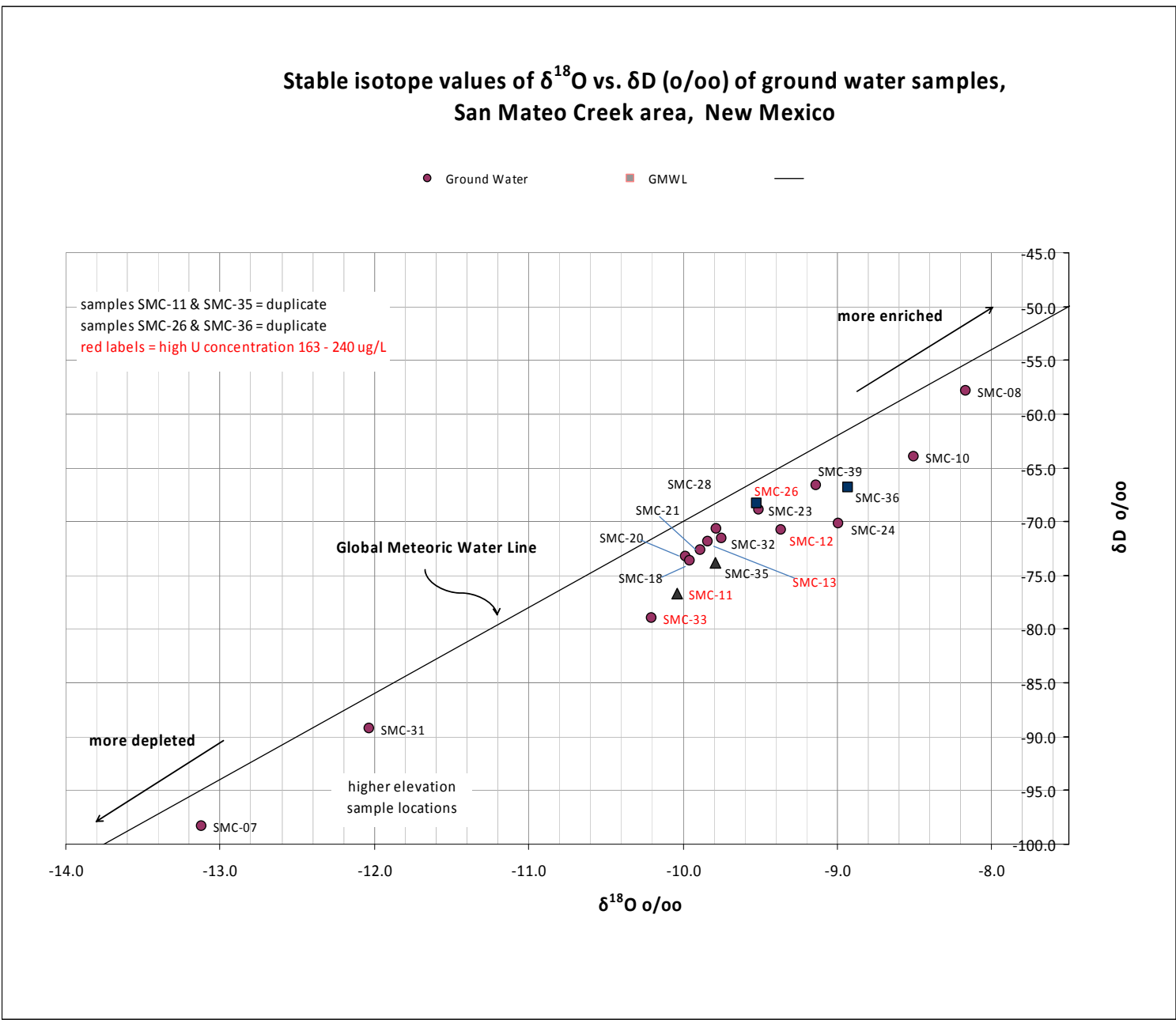
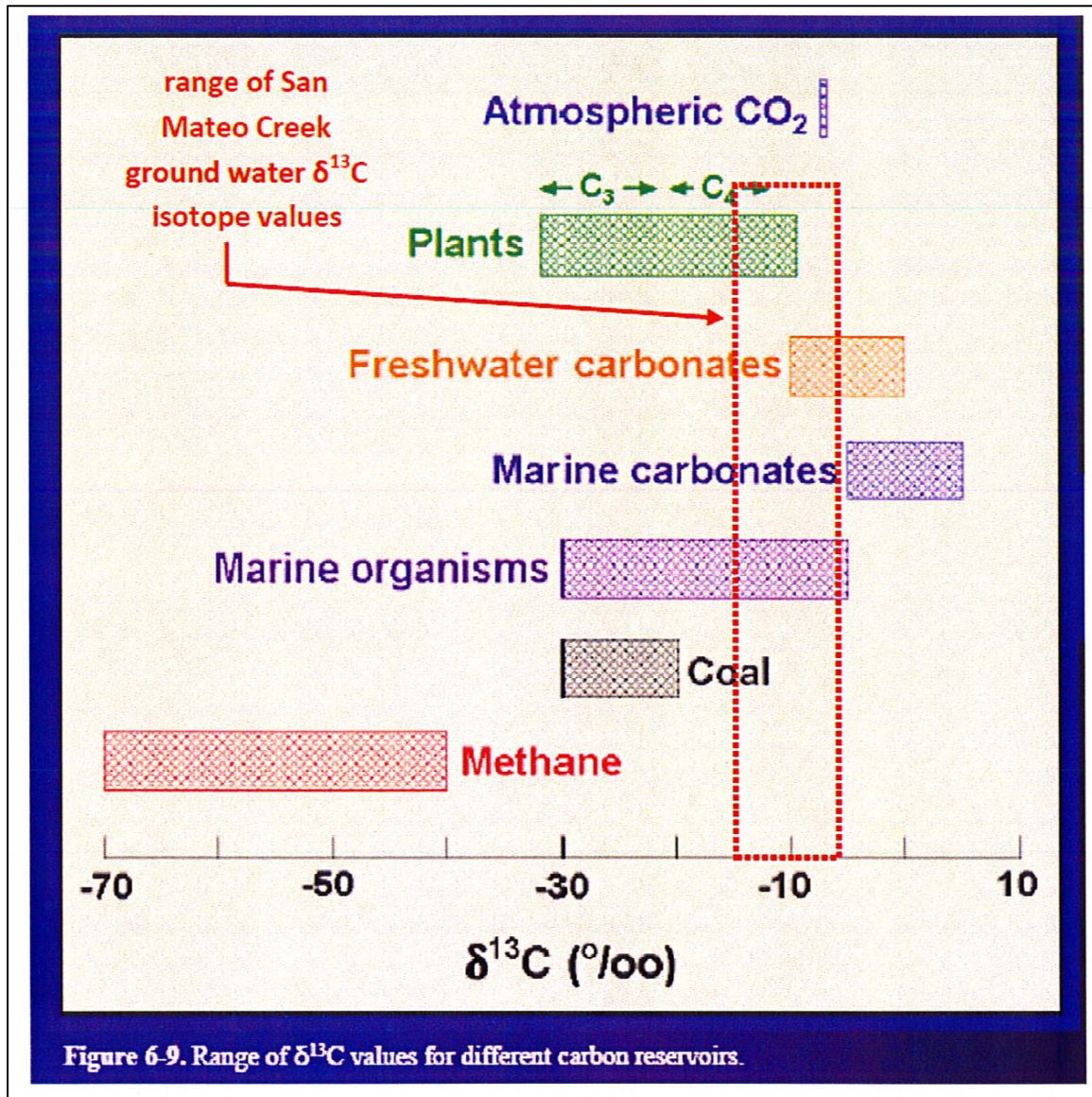


Figure 38. Range of $\delta^{13}\text{C}$ values (‰) in different carbonate reservoirs and the range of $\delta^{13}\text{C}$ values in ground water samples from the San Mateo Creek area, New Mexico (after Eby, 2004).



BIOGENIC DEPOSITS

AMBROSIA LAKE DISTRICT, N.M.

HOMESTAKE - SAPIN, SEC. 23 MINE - (H.C. GRANGER SAMPLES)

HOMESTAKE - SAPIN, SEC. 15 MINE (H.C. GRANGER SAMPLES & C.W.F. SAMPLES)

RIO DE ORO MINE - (H.C.G. & C.W.F.)

KERMAC, SEC. 22 MINE - (H.C.G.)

SEC. 33 MINE - (H.C.G.)

SEC. 30 MINE - (H.C.G.)

PHILLIPS PETROLEUM, SEC. 28 MINE - (H.C.G.)

GRANTS DISTRICT, N.M. - (C.W.F. SAMPLES)

SEC. 33 MINE

LAGUNA DISTRICT, N.M. - (C.W.F. SAMPLES)

WOODROW MINE

JACKPILE MINE

SAINT ANTHONY MINE

SANDY MINE

MAGMATIC HYDROTHERMAL DEPOSITS - (C.W.F. SAMPLES)

MARYSWALE DISTRICT, UT. (PROSPECTOR, FARMER JOHN, DEER TRAIL & FREEDOM MINES)

CENTRAL CITY, COLO. (CARROLL, CLARE MARIE, & RARA AVIS MINES)

SCHWARTZWALDER MINE, COLO. (PRIMARY - SUPERGENE)

GRAPEVINE MINE (H. ADLER SAMPLES)

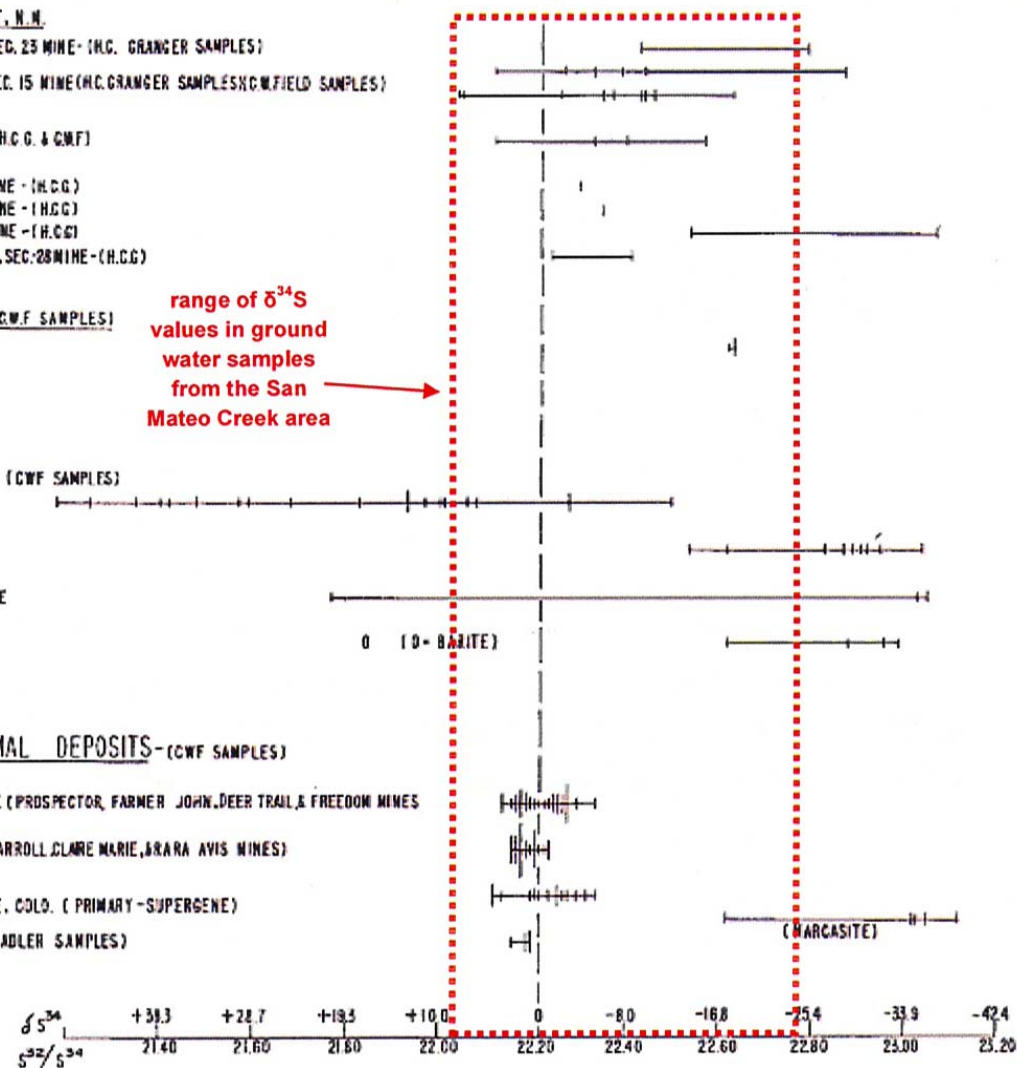


Figure 2

COMPARISON OF BIOGENIC AND HYDROTHERMAL SULFUR ISOTOPES

Figure 39. Comparison of biogenic and hydrothermal sulfur isotopes in uranium ore samples and range of $\delta^{34}\text{S}$ values in ground water samples from the San Mateo Creek area, New Mexico (after Jensen, 1963).

Figure 40. X-Y chart of SO₄ concentration in mg/l vs. $\delta^{34}\text{S}$ isotope values (2009) in o/oo for ground water samples in the San Mateo Creek area, New Mexico.

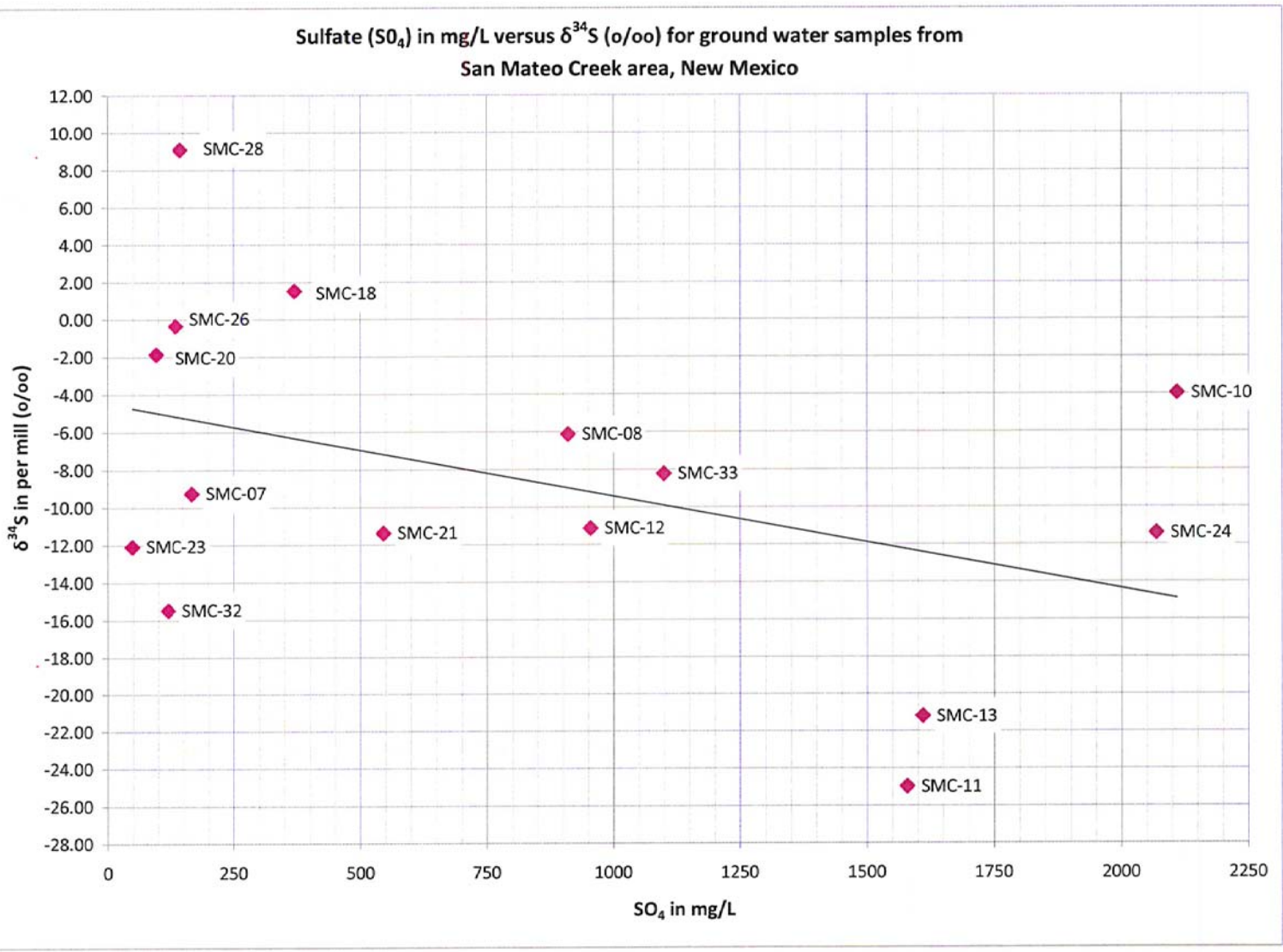


Figure 41. Chart comparing average major ion concentration values for the Bluewater and San Mateo area sample groups, Grants Mineral Belt, New Mexico.

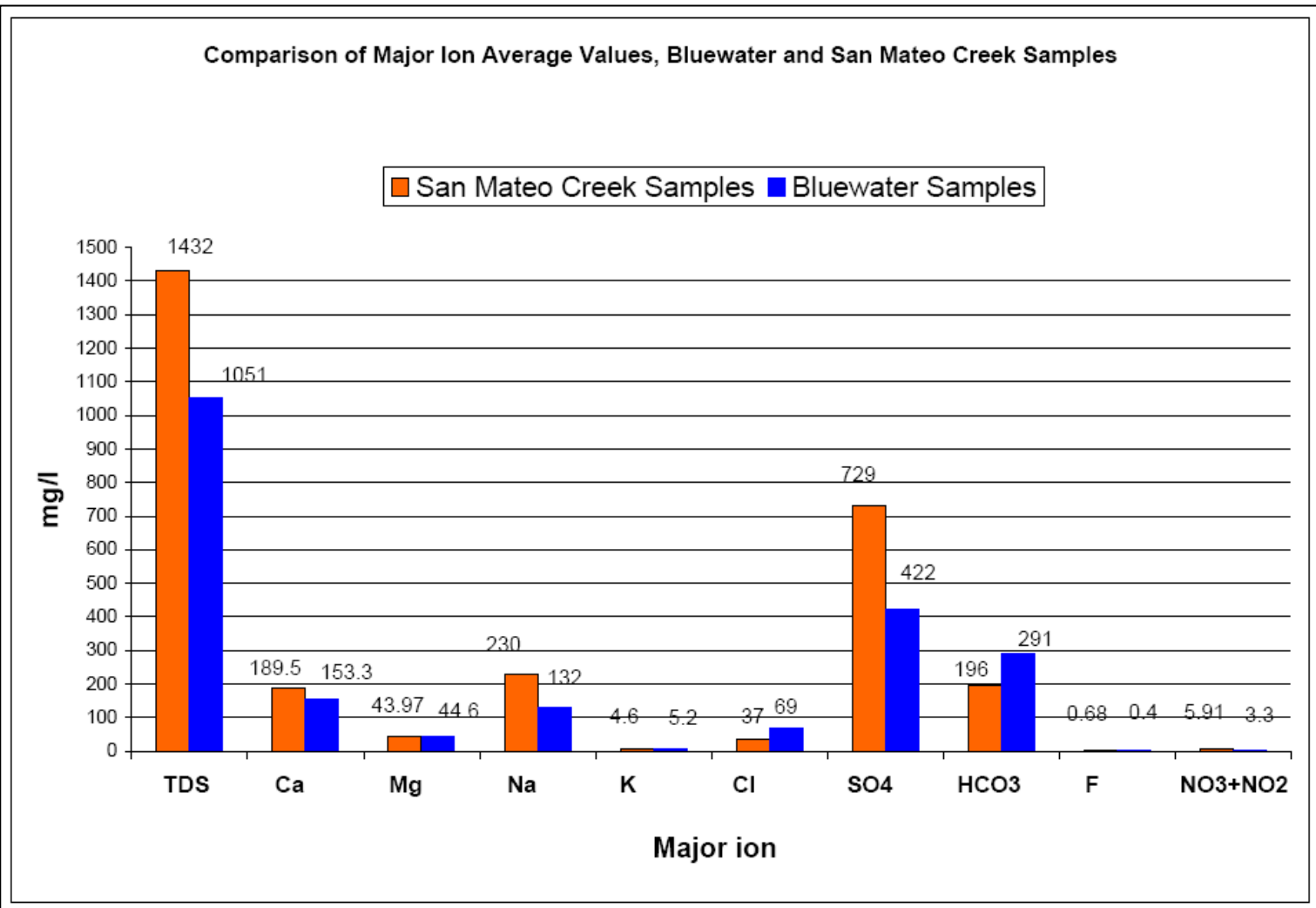


Figure 42. Chart comparing the average select trace element concentration values for the Bluewater and San Mateo area sample groups, Grants Mineral Belt, New Mexico.

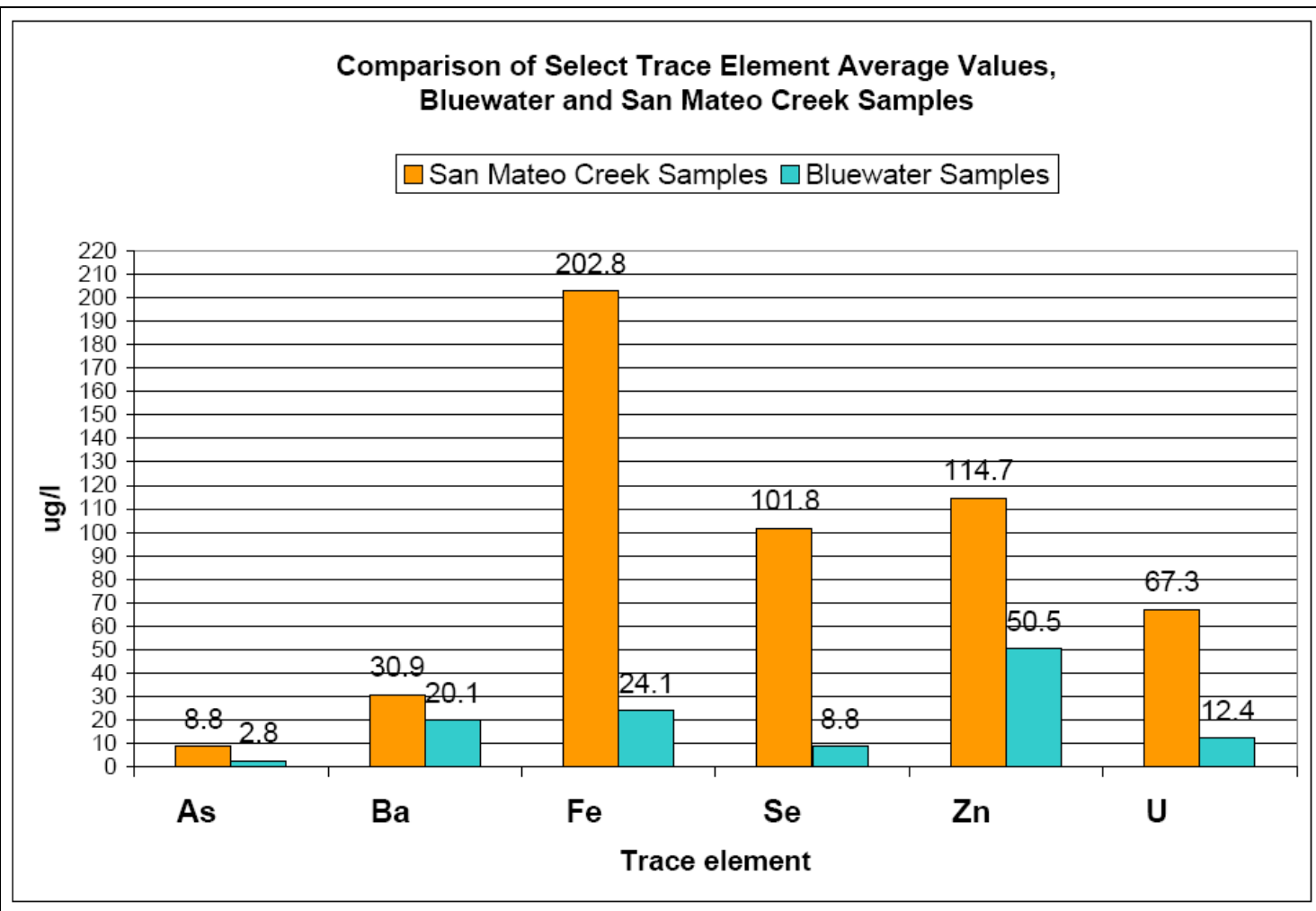


Figure 43. Trilinear (Piper) diagram with Bluewater and San Mateo Creek samples depicted against average values described in the investigation by Brod, 1979.

